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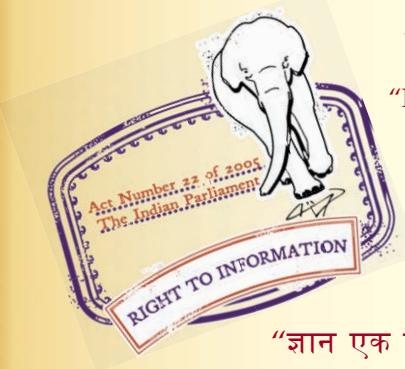
“Step Out From the Old to the New”

IS 4619 (1968): Grading for MAHUA kernels for oil milling  
[FAD 13: Oils and Oilseeds]

“ज्ञान से एक नये भारत का निर्माण”

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“Knowledge is such a treasure which cannot be stolen”





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*Indian Standard*  
GRADING FOR  
MAHUA KERNELS FOR OIL MILLING

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INDIAN STANDARDS INSTITUTION  
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG  
NEW DELHI 110002

# Indian Standard

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# Indian Standard

## GRADING FOR MAHUA KERNELS FOR OIL MILLING

### 0. FOREWORD

**0.1** This Indian Standard was adopted by the Indian Standards Institution on 8 May 1968, after the draft finalized by the Oils and Oilseeds Sectional Committee had been approved by the Chemical Division Council and the Agricultural and Food Products Division Council.

**0.2** *MAHUA*, also known as *MOWRAH*, is obtained from two trees, *Madhuca indica* J. F. Gmelin. Syn. *Mahuca latifolia* ( Roxb. ) Macbride and *Madhuca longifolia* ( Koenig ) Macbride, both belonging to the family Sapotaceæ. *Madhuca indica* grows chiefly in Madhya Pradesh, Uttar Pradesh, Bihar, Gujarat and in parts of West Bengal, Maharashtra, Andhra Pradesh and South India; while *Madhuca longifolia* grows only in South India. The oil derived from *MAHUA* kernels is extensively used in the manufacture of soaps and lubricating greases.

**0.3** Fruits derived from *Madhuca indica* contain one to two seeds while those from *Madhuca longifolia* contain one to four seeds. Seeds of *Madhuca longifolia* are longer and less rounded than those derived from *Madhuca indica*.

**0.4** Seeds derived from both varieties contain 70 to 75 percent kernel and 25 to 30 percent shell. *MAHUA* oil is obtained from *MAHUA* kernels.

**0.5** The specification for the oil obtained from the *MAHUA* kernels is covered in IS : 545-1963\* and IS : 3475-1966†.

**0.6** *MAHUA* kernels contain saponin or saponin-like substances which are poisonous and as such the cake obtained is not used as cattle-feed. *MAHUA* cake has wormicidal properties. It is used as manure.

**0.7** This standard contains clause 5.1 which calls for an agreement between the purchaser and the supplier.

**0.8** For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated,

\*Specification for *MAHUA* oil (revised).

†Specification for solvent-extracted *MAHUA* (*MOWRAH*) oil.

expressing the result of a test or analysis, shall be rounded off in accordance with IS : 2-1960\*. The number of significant places retained in the rounded off value should be the same as that of specified value in this standard.

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## 1. SCOPE

**1.1** This standard prescribes the methods of grading and the requirements for *MAHUA* kernels for oil milling, along with the relevant methods of sampling and test.

## 2. TERMINOLOGY

**2.1** For the purpose of this standard, the definitions given under 2 of IS : 3579-1966† shall apply.

## 3. GRADES

**3.1** The material shall be of three grades, namely, Grade 1, Grade 2, and Grade 3.

## 4. REQUIREMENTS

**4.1 Description** — The material shall be obtained from the seeds of the fruit borne on the trees *Madhuca indica* J. F. Gmelin. Syn. *Madhuca latifolia* ( Roxb. ) Macbride or *Madhuca longifolia* ( Koenig ) Macbride, both belonging to the family Sapotaceæ.

**4.2** The material shall not emit foul odour.

**4.3** The material shall also comply with the requirements given in Table 1.

## 5. PACKING

**5.1** The material shall be supplied in clean, dry, sound, single, new or unmended B-Twill bags in merchantable condition, as agreed to between the purchaser and the supplier.

## 6. MARKING

**6.1** The bags shall be marked with the name, grade and weight of the material, the year of crop and the source of supply.

## 7. SAMPLING

**7.1** Representative samples for the purpose of these tests shall be drawn as prescribed in IS : 4115-1967‡.

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\*Rules for rounding off numerical values ( revised ).

†Methods of test for oilseeds.

‡Methods of sampling of oilseeds.

TABLE 1 REQUIREMENTS FOR *MAHUA KERNELS FOR OIL MILLING*  
( Clause 4.3 )

SL No.	CHARACTERISTIC	REQUIREMENT FOR			METHOD OF TEST, REF TO CL NO. IN IS : 3579- 1966*
		Grade 1	Grade 2	Grade 3	
(1)	(2)	(3)	(4)	(5)	(6)
i)	Damaged kernels and weevilled kernels, percent by weight, <i>Max</i>	0	2	4	
ii)	Slightly damaged kernels, percent by weight, <i>Max</i>	2	6	16	
iii)	Shrivelled and immature kernels, percent by weight, <i>Max</i>	2	6	16	4
iv)	Split and broken kernels, percent by weight, <i>Max</i>	1	4	10	
v)	Impurities, percent by weight, <i>Max</i>	2	4	6	
vi)	Total of (i) to (v) above, <i>Max</i>	4	12	30	—
vii)	Moisture content, percent by weight, <i>Max</i>	10	10	10	5.1
viii)	Oil content ( on moisture-free basis ), percent by weight, <i>Min</i>	50	40	30	5.2
ix)	Acid value of extracted oil, <i>Max</i>	20	30	40	5.3

\*Methods of test for oilseeds.

## 8. TESTS

8.1 Tests shall be carried out according to the methods prescribed in IS : 3579-1966\*.

8.2 Quality of Reagents — Unless specified otherwise, pure chemicals and distilled water ( see IS : 1070-1960† ) shall be used in tests.

NOTE — 'Pure chemicals' shall mean chemicals that do not contain impurities which affect the results of analysis.

\*Methods of test for oilseeds.

†Specification for water, distilled quality ( revised ).

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## INTERNATIONAL SYSTEM OF UNITS (SI UNITS)

### Base Units

QUANTITY	UNIT	SYMBOL
Length	metre	m
Mass	kilogram	kg
Time	second	s
Electric current	ampere	A
Thermodynamic temperature	kelvin	K
Luminous intensity	candela	cd
Amount of substance	mole	mol

### Supplementary Units

QUANTITY	UNIT	SYMBOL
Plane angle	radian	rad
Solid angle	steradian	sr

### Derived Units

QUANTITY	UNIT	SYMBOL	DEFINITION
Force	newton	N	1 N = 1 kg.m/s <sup>2</sup>
Energy	joule	J	1 J = 1 N.m
Power	watt	W	1 W = 1 J/s
Flux	weber	Wb	1 Wb = 1 V.s
Flux density	tesla	T	1 T = 1 Wb/m <sup>2</sup>
Frequency	hertz	Hz	1 Hz = 1 c/s (s <sup>-1</sup> )
Electric conductance	siemens	S	1 S = 1 A/V
Electromotive force	volt	V	1 V = 1 W/A
Pressure, stress	pascal	Pa	1 Pa = 1 N/m <sup>2</sup>

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